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Marina Larson & Associates LLC			EXAMINER	
re: lexan			PATTERSON, MARC A	
PO BOX 4928				
DILLON, CO 80435			ART UNIT	PAPER NUMBER
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/063,792  
Filing Date: May 13, 2002  
Appellant(s): SCHOTTLAND, PHILIPPE

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Marina T. Larson  
For Appellant

**SUPPLEMENTAL EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 19, 2007 appealing from the Office action mailed June 15, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. However, as understood by appellant and noted in the appellant's footnote, because of an inadvertent error, Claims 5 – 6 were previously included in the base rejection. In the Grounds of Rejection below, the error is corrected as Claims 5 – 6 are included in the rejection of Claim 4.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

3,417,175	BROWN et al.	12-1968
3,728,143	POLLARD	4-1973
3,573,472	MADALO	4-1971
5,066,580	LEE	11-1991

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 3, 8 – 10, 13 – 16, 18 – 19, 21 – 23, 28 – 33, 35 – 36, 38 – 39 and 78 – 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (U.S. Patent No. 3,417,175) in view of Pollard (U.S. Patent No. 3,728,143).

With regard to Claims 1, 14 – 15, 31 and 78 – 80, Brown et al disclose a bottle comprising an annular portion comprising a molded body (a bottle which is a molded article and has a curved surface; column 10, lines 25 – 33) formed from a plastic having an index of refraction of at least 1.4 which is polycarbonate (column 9, line 30) wherein the annular portion

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has a graphic image formed as protrusions on the surface of the body (relief decoration; column 10, line 50). Brown et al fail to disclose a bottle comprising a photoluminescent material to provide a visual effect in the shape of the graphic image.

Pollard teaches a polycarbonate (column 8, line 48) comprising a photoluminescent material (column 6, lines 53 – 55) for the purpose of obtaining a material that is colored without high shear (column 9, line 53). One of ordinary skill in the art would therefore have recognized the advantage of providing for the material of Pollard in Brown et al, which comprises polycarbonate, depending on the desired coloring of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a photoluminescent material in Brown et al in order to obtain a material that is colored without high shear as taught by Pollard; the material would therefore provide a visual effect in the shape of the graphic image.

With regard to Claims 2, 9, 22, 30 and 32, the material disclosed by Pollard is fluorescent (column 6, lines 53 – 55), therefore including xanthene.

With regard to Claims 3, 8, 10, 16, 18 – 19, 21, 23, 33, 35 – 36 and 38, Pollard fails to disclose a pigment having a concentration of 0.1% to 0.005% and 0.0001 to 0.0003% by weight and a pigment providing a red or blue visual effect and a photoluminescent material comprising a material of nanosize. However, Kozak et al disclose a fluorescent pigment having a concentration of at least a fraction of 1% fluorescent pigment because the material comprises fluorescent dye, and a finite particle size. Therefore one of ordinary skill in the art would have recognized the utility of varying the concentration and color and particle size of the pigment to obtain a desired amount and particle size. Therefore, the amount and particle size would be

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readily determined through routine optimization of concentration and color and particle size of the pigment by one having ordinary skill in the art depending on the desired end use of the product.

With regard to Claims 13 and 39, the images disclosed by Brown et al are formed from protrusions having a height of 1 to 11 mils (column 10, lines 70 – 73).

With regard to Claims 28 – 29, Brown et al fail to disclose a bottle having a bottom portion, sealable top portion and integrally molded handle. However, Brown et al disclose a bottle having an annular portion as discussed above. It would have been an obvious matter of design choice to have provided a bottom portion, sealable top portion and integrally molded handle in Brown et al, since such a modification would have involved a mere change in shape. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Claims 4 – 6, 7, 17, 20, 34, 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (U.S. Patent No. 3,417,175) in view of Pollard (U.S. Patent No. 3,728,143) and further in view of Madalo (U.S. Patent No. 3,573,472).

Brown et al and Pollard disclose a bottle comprising a fluorescent dye as discussed above. With regard to Claims 4 – 6, 7, 17, 20, 34, 37, Brown et al and Pollard fail to disclose a fluorescent dye which provides a blue or red visual effect.

Madalo teaches that it is well known in the art to select the color of a fluorescent dye depending on the suitability of the fluorescent dye for viewing in a desired color of visible light (when photoluminescent materials are used for symbols, reading symbols under visible light is, of

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course, simply effected by adding a suitable color, therefore dye; column 3, lines 39 – 46) in the making of a label (column 4, lines 6 – 10) for the purpose of obtaining a label that is highly efficient (column 3, lines 49 – 52). One of ordinary skill in the art would therefore have recognized the advantage of providing for the selection of color of Madalo in Brown et al and Pollard, which comprises a label, depending on the desired efficiency of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for the selection of the color in Brown et al and Pollard in order to obtain a label which is efficient as taught by Madalo. Therefore, one of ordinary skill in the art would have recognized the utility of varying the color to obtain the desired efficiency. Therefore, the efficiency would be readily determined by through routine optimization of the color by one having ordinary skill in the art depending on the desired use of the end product as taught by Madalo.

It therefore would be obvious for one of ordinary skill in the art to vary the color, and thererore visual effect, in order to obtain the desired efficiency, since the efficiency would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Madalo.

Claims 11 – 12 and 40 – 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (U.S. Patent No. 3,417,175) in view of Pollard (U.S. Patent No. 3,728,143) and further in view of Lee (U.S. Patent No. 5,066,580).

Brown et al and Pollard disclose an article comprising xanthene as discussed above. With regard to Claims 11 – 12 and 40 – 41, Brown et al and Pollard fail to disclose xanthene

having a quantum yield of 0.9 or greater. However, Lee teaches that xanthene has a quantum yield of 0.93 (column 1, line 24). A quantum yield of greater than 0.9 or greater is therefore inherent to Brown et al and Pollard.

#### **(10) Response to Argument**

Appellant argues that Pollard does not disclose a bottle in which photoluminescent material is dispersed throughout the bottle.

However, as stated above, a bottle is disclosed by Brown et al, which comprises polycarbonate, and Pollard teaches a polycarbonate comprising photoluminescent material; the photoluminescent material taught by Pollard is admixed to assure good blending (column 7, lines 49 – 50), and is therefore dispersed throughout the polycarbonate taught by Pollard, and would be dispersed throughout the bottle disclosed by Brown et al if the bottle comprised the polycarbonate taught by Pollard.

Appellant also argues that to the extent that the combination of Brown et al and Pollard is suggested, the objective combination would be to add the Pollard colorant to only the relief area of Brown et al, since this is the only area where color is desired in the Brown reference.

However, Brown et al does not state that color is always desired only in the relief area; conversely, in one embodiment, Brown et al discloses a bottle in which the raised design has no distinct coloration (the adhering sheet '7' in Figure 2 is not utilized; column 5, lines 21 – 26), thus explicitly disclosing an embodiment in which color is not desired only in the relief area; an objective combination of Brown et al and Pollard et al is therefore not limited to the addition of the Pollard colorant to only the relief area of Brown et al.



Appellant also argues that the claimed bottles need not be colored to achieve the visual effect.

However, it is not stated in the previous Actions that there is a requirement of coloration in the claimed bottles, as no requirement of coloration has been claimed.

Appellant also argues that nothing in the combination of references suggests a visual effect that is likely to be different to any coloration in the bottle, as a result of Stokes shift.

However, a visual effect that is likely to be different to any coloration in the bottle, as a result of Stokes shift, is not claimed.

Appellant also argues that Pollard does not teach a dye because Pollard defines the term 'pigment' to mean substances which are generally considered insoluble in the vehicle, and have the property of light refractivity, whereas 'dyes' are considered solubility and generally have the property of light absorption.

However, Pollard goes on to say that phosphorescent, luminescent, fluorescent metalescent and pearlescent materials fit within the term 'pigment'. It is not clear how the material of claim 2 must be a dye, based on Pollard's definition that such a material is a pigment; it therefore appears that, based on the two definitions, the terms 'dye' and 'pigment' can be used interchangeably in the art. Arguably, since Pollard states that dyes absorb light, it is not clear how the 'dye' of Claim 2 exhibits photoluminescence. Either the terms are interchangeable or Appellant is defining the term contrary to Pollard.

Appellant also argues that no explanation has been offered of how a reduction of dye concentration of nearly three orders of magnitude can be an obvious variation over Pollard.

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However, as stated above, because the coloring that is taught by Pollard is fluorescent, and is therefore used to obtain a desired amount of fluorescence, one of ordinary skill in the art would have recognized the utility of varying the concentration to obtain a desired amount of fluorescence. Therefore, the amount would be readily determined through routine optimization of concentration by one having ordinary skill in the art depending on the desired end use of the product.

Appellant also argues that xanthene is not included in Pollard because Pollard teaches pigments, not dyes.

However, as stated above, Pollard goes on to say that phosphorescent, luminescent, fluorescent metalescent and pearlescent materials fit within the term 'pigment'. Pollard must be teaching a dye, as defined by Appellant, even though they refer to it as a pigment, in the same way that the same material is considered by Appellant to be a dye.

Appellant also argues that in stating that Madalo is relevant to the claimed invention shows a continued lack of recognition of the fact that Pollard does not teach a dye; the citation of Lee, Appellant argues, is also in error because Pollard does not teach a dye.

However, as stated above, it appears that the terms 'dye' and 'pigment' are being used interchangeably.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Marc A Patterson/

Primary Examiner, Art Unit 1794

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